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## CLINICAL LECTURE.

### PRACTICAL POINTS IN URETHRAL SURGERY.

BY ARPAD G. GERSTER, M. D.,

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*Gentlemen:* We have before us an Italian, about thirty-five years old, who, we are told, has a stricture of the urethra which we will proceed at once to examine. We find, on introducing the bulbous sound, that the stricture is deeply situated, beyond the bulbous portion of the urethra, apparently in the bulbo-membranous portion, but possibly entirely in the membranous portion of the urethra. Slight manipulation seems to cause him considerable pain, and we will, therefore, inject some cocaine down to the seat of the stricture. Cocaine is a great boon in the treatment of urethral affections, especially where the patient's sensitiveness is very marked. Nevertheless, it is not an unmixed advantage. It has certain disadvantages, and it is proper that they be held in view. Cocaine anæsthetizes the urethral mucous membrane, but it also causes, during the time that anæsthesia persists, an unnatural anemia. If you have watched the effects of the drug when applied to the nasal or oral mucous membrane, you have noticed that shortly after the application of rather a strong solution the mucous membrane becomes pale, and, if there is any erectile tissue beneath it, as there is on the turbinated bones, the vessels contract, and the tissues become shrunken, pale and anemic. Now, while the operation is going on, this is well enough. This is an advantage, no doubt; but after the operation is completed, and the anemia is replaced by marked hyperemia, the hemorrhage following the operation is apt to be quite profuse. Now, in the nasal cavity that is of no great concern, for we can easily stop hemorrhage there; but if you have performed an operation in the deeper

portion of the urethra, seemingly with slight loss of blood, as soon as hyperemia vanishes, profuse hemorrhage is apt to set in, which may be very difficult to staunch. The possible toxic effects of the drug on the nervous system of predisposed individuals must also be noted as a source of embarrassment.

The cocaine injected has now produced its effect, and we will proceed with the examination. We find two strictures, one in the membranous portion, and the other at the bulbo-membranous junction. The instrument passes down six inches by measurement, which is a very considerable depth, before it meets with the first stricture.

Before proceeding to divide the stricture I will explain to you the mechanism of the urethrotome which we will use on this occasion. Although it is an instrument of my own device, yet I should not feel justified in presenting it if it did not possess certain advantages which would recommend it, whoever may have been the inventor.

I have now used it in a very large number of cases, commencing its use in May last. I have found it an instrument which can be honestly recommended, especially for use by the general practitioner. It can be taken apart and cleansed, and kept in repair by one who is not an instrument maker. Besides, it obviates the necessity for using a separate instrument—the urethrometer—as one has to do when an Otis urethrotome is employed. With this instrument one can diagnosticate and locate a stricture of large caliber. When introduced closed, it corresponds in size to No. 15 sound, French scale. Having passed the end of it just behind the stricture, the instrument is opened or widened, just beyond the strictured portion, to the desired size, by turning a thumb screw. A dial, at the proximal end, is seen recording the degree of widening in millimeters. The bulb of the instrument is now somewhat firmly drawn forward, so as to enter the stricture. Having thus put the strictured portion upon the stretch, the knife hidden in the curve at the end of the urethrotome is drawn towards the operator and now the bulb and knife together are deliberately drawn through the stricture. If the instrument, enlarged to the required size, can be readily moved up and down through the strictured portion of the urethra, its ready passage will show that the incision had been both long and deep enough. If it meets with undue resistance it will necessary to dilate and cut again. One important point must be observed: suppose you have a case of tight stricture which will permit of the bare introduction of this urethrotome, say No. 16, the man's normal urethral canal being No. 34; now, you have to cut sufficiently to widen the stricture from No. 16 up to No. 34, which is quite a jump, as you see. The stricture is tight, callous and hard. If, in such a case, you should widen the instrument up to No. 34, pull out the knife, and attempt to draw the whole instrument through the stricture at one stroke, necessarily using a great deal of force, a circular rupture of the urethra might result. This would be a very serious accident. The proper thing to do in a case of tight stricture, say No. 16, is to introduce the urethrotome, turn it up to No. 20 or No. 22, draw the knife through and cut up to that point. You then close the instrument again, re-introduce it beyond the strictured part, open it up to No. 29 or No. 30, and repeat the process as before. The third cut will have enlarged the strictured portion up to the normal. You will observe that a marked advantage which this instrument has over Otis's is the fact that you do not have to withdraw it from the urethra at all before completing the operation. When you use Otis's instrument you have to first measure the locality of the stricture exactly; then mark its depth upon the urethrotome, introduce the instrument, cut the stricture, withdraw the urethrotome, and introduce another instrument which will tell whether the incision was deep enough and long enough. If not, you will have to re-introduce the urethrotome and cut again. I have myself, and have seen many other surgeons, re-introduce Otis's instrument as many as five times in a single operation. The operator does not want to cut too deep, and consequently has to bring it gradually up to the proper size, and measure the gradual effect of the operation. All this is obviated by my instrument. But there are so many urethrotomes that this fact in itself would be sufficient reason for not inventing another. Indeed, there are so many different instruments on the market that it casts rather a gloom upon the surgeon to hear of a new one, and I sympathize with that feeling. I feel, therefore, that it was my duty to give sufficient reasons for introducing another urethrotome to the profession.

Heretofore urethrotomes have been so constructed that they could not be cleaned properly. Otis's instrument, for instance,

cannot be cleansed as it should be. You must boil it to render it aseptic. That means rusting and clogging up of the delicate joints, so that the instrument in time becomes unreliable. One of those fine joints, having become weakened from rust, might break in the urethra during an operation, which would be quite a serious matter to the patient. All the advantages of the instrument I am using to-day, which have been mentioned, would not be sufficient to justify its introduction if it did not possess the additional advantage of being readily cleansed. I can take this instrument apart, piece by piece, in fifteen seconds, and put it together again in thirty seconds, and having so taken it apart there is no difficulty whatever in thoroughly cleansing and disinfecting it. It is composed of three rods and three screws. It is also a cheaper instrument than Otis's, and is composed of parts which will not break readily. I have felt for years the need of an urethrotome which could be easily cleaned; without such an instrument we cannot feel assured that infection of our patients is not due to our own fault.

You should never operate on the urethra without first washing it thoroughly with a mild antiseptic solution, such as boracic acid. If the operation is a deep one, you will also have to wash out the bladder. First, however, you will wash out the anterior part of the urethra, or that portion which lies in front of the cut-off muscle. This muscle, the compressor urethræ, is circular, and lies in the membranous portion of the urethra. The popular name is the cut-off muscle, because by its action we can voluntarily cut off the stream of urine.

The importance of this muscle, in reference to urethral complaints, had not been appreciated until within a recent date, when Ultzmann, of Vienna, called the attention of the profession to its practical importance; so that we no longer divide affections of the urethra into those situated in the pendulous, the membranous and prostatic portions. Now, the affections of the urethra are divided into those situated in the anterior or posterior urethra. By anterior affections we mean those situated in front of the cut-off muscle, and by posterior affections those situated behind that muscle. If you want to wash out the anterior urethra the catheter should not be introduced beyond the cut-off muscle, and then, while making the injection, the fluid will immediately escape alongside the instrument. But the moment the beak of the catheter passes beyond the cut-off muscle, the fluid will cease to escape alongside the tube, and will go on into the bladder. Yet one might naturally suppose that on removing the syringe the fluid would come back at once through the catheter left in situ; but this is not the case. Not a drop of fluid escapes. Recalling the physiological use of the two muscles which control the escape of urine, that in the urethra called the cut-off muscle, and that at the neck of the bladder called the sphincter vesicæ, we comprehend at once this phenomenon.

As mentioned, with the beak of the catheter just beyond the cut-off muscle, not a drop of the injected liquid returns. But thrust it in an inch farther and all the irrigating fluid will at once escape through the catheter. What does that mean? It means that the water having been injected beyond the cut-off muscle could not return past that muscle. Consequently it was forced beyond the sphincter vesicæ, into the bladder, and returned through the catheter when this was pushed forward into that viscus. In daily life, when the bladder becomes completely filled with urine you feel the necessity for passing water, the sphincter is then pushed apart by the fluid behind it, the cut-off muscle in the deep urethra remaining alone to guard against the escape of urine. The bladder and the deeper portion of the urethra, the portion between the cut-off muscle and the bladder, then become one cavity.

Remember, then, that if you wish to wash out the deep portion of the urethra you should not thrust the instrument clear into the bladder. If you should do that, the deeper urethra would not be touched by the fluid at all. The beak of the instrument must be introduced between the two sphincters. These facts should be known and observed by every physician who undertakes manipulations about the male urethra. We have demonstrated them on this patient. We have injected the posterior or deep urethra several times with a permanganate of potash solution of 1-2000, until the fluid which passed on into the bladder returned without a change in color. The hand syringe is better than the fountain syringe for this purpose. To recapitulate, we first cocainize the urethra. When the urethra has been cleansed by irrigation, and before proceeding to divide the stricture, introduce some more cocaine. Having made the last injection of cocaine, we wait a minute or

two for it to produce its anæsthetic effects, before proceeding to stretch and divide the stricture. After it has been divided the urethra is again washed out with a solution of permanganate of potash as before. I can assure you, that since I have adopted this procedure, dating about six years back, I have not had one case of urethral fever following the introduction and use of any instrument into the urethra. It is particularly necessary to wash out the urethra and bladder in this manner where the urine is ammoniacal.

This urethrotome, as you will notice, is nearly straight. I have frequently been asked by general practitioners whether I can introduce a straight instrument into the bladder, and my reply is: yes, very easily, sometimes much more easily than a curved instrument.

The urethral endoscope, for instance, which is a straight instrument, can be introduced with little difficulty, if sufficiently long, into the bladder, but you must manipulate it very carefully, and never force it. There is no text-book, there is nothing which will teach a man how to introduce an instrument down the urethra except practice. Some men are unable ever to learn to catheterize properly. They have not the manual gift, and are unable to acquire it. Forcing the instrument will only do mischief; it will create a false passage, and instead of passing into the bladder, go into the perineum or rectum.

Having cut the stricture in the manner already described, the question arises, what shall be the after-treatment? The patient should take five grains of powdered boracic acid three times a day in order to keep the urine sweet; of course he should be forbidden champagne, beer or any articles which have a deleterious influence upon the character of the urine. The bowels should be kept free by saline cathartics. He should keep as quiet as possible for six or seven days. I rarely introduce an instrument for four, five or six days, and, in sensitive patients, not before the seventh day. Then I begin the introduction of a full-sized steel sound once a day, later twice a week and still later once a week, and so on. This treatment is kept up for some time, or until we can assume that the cicatrix left in the urethra has become atrophied or thinned out just as it would do if it were situated on one's hand. You have probably observed that a cicatrix formed in the process of healing by granulation is for a time hyperemic and succulent. As it grows older it gradually flattens out, shrinks, becomes anemic, pale and thin. Until the cicatrix in the urethra following division of a stricture has reached that condition, dilatation should be kept up to avoid contraction. The stretching and pressure caused by the introduction of the sound from time to time favor the shrinkage and absorption of the inflammatory products of the cicatricial cell elements. How long is it before that process is completed? This varies in different individuals. In some persons a cicatrix will remain hypertrophic a long time, say five or six months, if not longer; in others the cicatrix assumes its pale character in eight weeks. So that if you ask me how long this after-treatment should be carried on, my reply is that we cannot lay down a definite limit. You should continue it until no vestige of re-contraction can be noticed. As long as there is the slightest tendency to re-contraction, and that tendency will remain as long as the cicatrix is succulent, you must continue the dilatation. The statement that simply cutting a stricture will cure it, is untrue. Subsequent dilatation is a necessity.

Again, it should not be forgotten that a cicatrix is liable to inflammation just as normal tissue; that after it has begun to shrink and atrophy it may again become irritated and inflamed from injury by rough handling, like the tissues situated elsewhere. Such a result may be expected, especially if you employ, in the dilatation, sounds which have not been properly cleansed. In this event, new connective tissue, or lymph, as it is called in the old text-books, will be deposited, and the cicatrix will become again succulent, or œdematous or even indurated, tending to aggravate the contraction. This, indeed, frequently takes place in this class of patients. Their trouble usually begins in a gonorrhœa, and many men cannot resist the temptation of exposing themselves again and again to infection, even shortly after having undergone painful treatment, made necessary by the consequences of their indiscretion. If, in this way, a stricture which has been on the road to absorption and disappearance should again be driven into a state of active inflammation, the man will find himself in the position he was in before his stricture was cut. All these details have to be taken into consideration in giving a prognosis as to the time required for after-treatment.

After having treated my patients three or

four weeks, and introducing the sound myself during that time, I then teach them how to introduce the full-sized sound themselves, give them particular instructions and warnings regarding cleanliness of the instrument. I let them first urinate in the morning and then pass the sound, for they will then be able to hold the water several hours, whereas if they first passed the sound and soon after urinate it may lead to infection. Many of them, if they find a recontraction after having neglected themselves a long time, will try to force the instrument through, and thus injure the urethra. It is not my experience alone, but also that of all surgeons who have done much urethral surgery, that men who have suffered almost the agonies of death because of retention of urine from a urethral stricture, which finally a surgeon has relieved by his art, will afterwards disobey his instructions, and go on neglecting to pass an instrument from month to month and year to year until recontraction takes place and they find themselves again in agony as they had been before. I have known this degree of carelessness to be manifested by men on whom external urethrotomy had to be performed because it was impossible to get an instrument into the bladder, and by men who had had to submit themselves repeatedly to puncture of the bladder in order to withdraw the urine. Therefore, whenever you have to treat a stricture do not forget the class of persons whom you have to deal with. They are men who will expose themselves in every way; who will repeatedly acquire gonorrhœa, who will permit a stricture to recontract to complete occlusion and when they suffer will charge the whole trouble to lack of skill on the part of the surgeon. Be very plain in your talk, for these men can stand a plain statement of their case. I never allow one of them to go away from me ignorant of all the possibilities, of all the aspects of his case. I do not hesitate on account of a false sympathy to tell such a man all that he is liable to. If you do not so impress him with the facts in his case he will tell the next physician under whose care he comes that you did not know your business. He will say that you used too strong injections, or that you did not cut the stricture sufficiently, or that you cut it too deeply. All the blame for his subsequent carelessness will be thrown on you. I hear patients say this every day, for it is rare that they have not gone through the hands of other physicians before coming to me.

## COMMUNICATIONS.

### INFANT DIETETICS AMONG THE POOR.[1]

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In apology for presenting this non-surgical subject to the Society's consideration, I feel that I can safely say that it is one which will engage every young practitioner's attention at the outset of his career; it will enlist his sympathies, demand his courage and persistence, and tax his ingenuity to the utmost.

One of the most popular subjects now being discussed by the medical profession is artificial feeding for infants. For babies who cannot be breast-fed, sterilizers have been devised; the exact proportions of milk, cream, lime-water, etc., have been determined; the efficiency of pepsin and pancreatin has been tested; all with increased satisfaction to physician and patient. This has been done so thoroughly and acceptably, that one of our leading authorities believes that, in the majority of cases, it would be better for an infant to be bottle-fed than breast-fed; for the reason that a perfect substitute for mother's milk can be made, which, unlike the maternal production, can be unlimited in quantity and permanent in quality. But the problem of artificial feeding for the babies of very poor and ignorant people is much more difficult; for the residents of the alleys cannot afford sterilizers, however simple or cheap, or if they were provided, would be restrained from using them through lack of time or faith, or from stupidity and carelessness. Poor patients, also, are less under the control of their physicians; for if they are not suited they wander off to other dispensaries or districts. The physician of a "poor district" finds the babies and children fed in every conceivable way, upon all sorts of trashy food; and he is forced into an unequal struggle to effect the slightest change. He speedily learns, as Dr. Keating has said, that the human mother is the only maternal animal which is not endowed by nature with instinctive knowledge of the proper way to

[1] Read before the D. Hayes Agnew Surgical Society.

care for its offspring. The difference between bottle-fed and breast-fed babies of poor women is most striking; the breast baby is generally hearty and vigorous; the other puny, weak and miserable; so that, whatever may be your belief in regard to the ordinary infant, it is far better not to be too hasty in allowing a change among your poor patients until you feel satisfied that permanent difficulties will prevent breast feeding. Generally, however, you will not be called in until the change has been made, and the child is suffering from some intestinal trouble. In preparing a suitable diet, several points must be considered. It must be inexpensive; simple to prepare, easy to keep, and fairly nutritious. First, it is necessary to start with good milk. Careful laws on the subject cannot be too severely enforced; for no method, however simple or satisfactory, can be of avail if the basis of food is tainted when delivered. The plan has been suggested of establishing dairies in every city which will daily sterilize and bottle milk in six or eight-ounce bottles, expressly for mothers residing in the vicinity, to be sold at the lowest rate possible; the bottles to be returned with a rebate when empty. But this plan does not seem to be feasible. In sterilizing large quantities of milk, owing to routine, haste or carelessness, the work is not apt to be thoroughly done. Again, those who are able would prefer to prepare it themselves at home, while those too poor or ignorant to sterilize milk for themselves are not apt to take the trouble to purchase milk already sterilized; or, if they do, will be suspicious of the milk, not understanding what has been done to it. Unless the children fed thereon should exhibit marvelous improvement, mothers would be very wary in using this prepared milk. This I have noticed from personal experiment. A plan which answers fairly well is that used in many dispensaries. A printed or written slip is given to the mother containing full and simple directions of what should be done to sterilize and prepare the milk-food: This plan is not always to be depended upon, especially if the woman is illiterate; hence, it is advisable to repeat the directions carefully and in detail, and to cause them to be repeated by the listener in turn. Even then, despite all care, twenty per cent. of the mothers will get matters wrong. A neighbor, relative or friend, who can read, or who is moderately intelligent, can generally be found to supervise the work until the mother does it right. As a rule, it is useless to order cream; for generally it will not be purchased, but will be simply left out, and no attempt will be made to supply its place. From pride or indifference no mention of the fact will be made; so that the child will be getting less nourishment than if more milk had been ordered at the outset, and no attention paid to the cream. The following directions are modified from the forms used at the Children's Hospital.

On one slip is printed:

From birth to the age of six months six or seven meals are to be given in 24 hours.

The food is made of

1. Milk,
2. Lime-water,
3. Arrowroot-water,

} To be mixed as follows:

Take eight tablespoonfuls of milk, and four tablespoonfuls of lime-water, and four tablespoonfuls of arrowroot-water; place in a bottle with a lump of sugar; warm the whole by standing the bottle in warm water. Use immediately.

In many cases teaspoons will be thought the measure, instead of tablespoons; hence that word must be emphasized.

On another slip of paper is placed:

Arrowroot-water is made by taking one and a half teaspoonfuls of arrowroot, rubbing it down until smooth with a teaspoonful of cold water. Then add one pint of boiling water, stirring all the time.

If this direction is placed on the same paper with the instructions for mixing food, in many cases it will be found that the teaspoonful and a half of arrowroot will be added directly to the milk and lime-water. If this is done, the food becomes most unsuitable for the child; while the mother will claim that she is following directions exactly. To sterilize the milk it is directed as soon as it is obtained from the dealer, to boil it and to cork it in an air-tight jar (for which purpose a Mason's preserving jar, or a beer bottle *thoroughly cleaned* will do), and to place it immediately in a cool place—either a cellar or an improvised ice-chest. The lime-water can be obtained from a pharmacy or can be made in the following manner: Take a piece of unslacked lime about the size of a walnut; put it in an earthen vessel; put on it two quarts of filtered water, stirring well. As it is used keep the vessel full by adding more water from time to time.

In case there is much vomiting, the proportion of lime-water can be increased and the arrowroot can be left out. If this does not suffice, the vomiting remaining excessive, stop the milk entirely and give from five to ten drops of brandy in water every two or three hours, returning to the milk cautiously in the next day or two. This often proves of service. If there is a good deal of diarrhœa with the vomiting, it is often advantageous to combine with the food an antiseptic, soothing, antacid astringent, which will check both the symptoms, neutralize any poison in the intestines, and quiet the child. For this purpose the following prescription—a favorite at the Children's Hospital—acts well; the addition of the aromatic syrup of galls giving a delightful odor to the preparation. It is given in strength for child of six months:

℞ Bismuth. subnit. . . . . ʒiss – iii
Tr. opii camph. . . . . ♏ xxxii
Sodii salicylat. . . . . gr. iv–viii
Syr. galli aromat., q. s.
Mist. cretæ . . . . . fʒi.
Aquæ q. s. ad. . . . . fʒii.
Sig. A teaspoonful every three hours.

To this treatment should be added injections of starch water, made as for starching clothes, only that the mixture, when it is cool enough to bear the finger, shall run like cream. It is better to add this description in ordering starch water, else sometimes it will be made of corn-starch, such as is used in making puddings; or it will be so made as to be comparatively thin while hot, but when cool become so thick that it will not flow through the syringe. To this injection can be added laudanum, one drop for each year of the child's age. Just enough to be retained by the bowel can be injected twice a day, each time after a passage; or starch water without the laudanum can be injected after every movement during the day, as much as the bowel will hold, most of it being rejected in a few minutes. A hot napkin held against the anus will serve to aid in retaining the enema within the bowel. In regard to the syringe for the injections, it is always better to describe what you want; otherwise anything may be used. A good way is to draw a little diagram of the shape and size of the instrument wanted. It should be of glass, so that dirt can be seen, with a point not too blunt to prevent insertion in the rectum. The point should have rounded edges so that the delicate mucous membrane will not be cut or injured. If this description is not given, a Davidson syringe, or some other big, unsuitable instrument may be pressed into service—of course with complete failure. In cases of commencing cholera infantum, when the bowel is filled with noxious matter, a small dose of castor oil and glycerine will seem to abort the case in many instances; followed by the above-mentioned prescription, which is strongly alkaline, the acid contents of the intestines are neutralized and the results will generally prove happy; especially if the child is robust, the weather not too hot, and the family hygiene fairly good. In well marked cholera infantum cases it will be found difficult to keep the little patients on suitable diet. In ordering broths, soups, etc., it will be found that, although strenuously insisted upon, they will be rarely prepared or given. The sick diet kitchens may furnish good food for the purpose, but often at the most urgent moment they fail. Where some simple form of nourishment must be devised, egg albumin serves well. Take the white of an egg, stir it in a cup of cold water until it is as thoroughly dissolved as possible, then strain out the flakes which remain. The child can be fed on this every hour or so. Brandy, which is better than whiskey, is generally borne well in this mixture. In the few cases in which I have tried rectal alimentation among poor children, it has met with small success. The parents look upon it as the height of folly; so that it usually serves only to disturb the child, which probably is moribund by the time this process is tried. Or if they believe it is doing good, it is impossible for them to do it efficiently, either from fear of injury to the child, or from using too large quantities at a time. When the cholera infantum is well marked, the indications for alkaline remedies are not so prominent; still this combination can be kept in service and some digestive stimulant, such as pepsin and acid, can be added to the routine; but the children seem to do about as well on some simple acid prescription, such as the following, which is palatable—a great point with poor children, who are more or less humored and spoiled in infancy. It is given in the strength for a child one year old:

℞ Acidi sulphurici dil. . . . ♏ xxxii
Liq. morphinæ sulph. . . fʒiss, ♏vi
Elix. curaçao . . . . . ♏ lxxx
Aquæ q. s. ad. . . . . fʒii
Sig. Teaspoonful every three hours.

I have not attempted to cover the great field of infant diseases or dietetics. I have simply endeavored to give a few practical ideas in detail, on points which books as a rule slur over or omit. Even on these questions I have not tried to be thorough, offering the article as simply suggestive of the many thoughts and plans which can be devised to solve this difficult question of feeding the babies of the poor.

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## TUBERCULOSIS APPARENTLY ARRESTED BY THE USE OF OPIUM AND WHISKEY.

BY THOMAS A. POPE, M. D.,

CAMERON, TEXAS.

About a year and a half ago, Mr. S. H. came to my office for treatment. He was suffering with laryngeal catarrh. He had been in bad health for some time; had been losing weight and coughed considerably. On carefully examining his lungs, it was manifest that he was suffering from tuberculosis. The upper lobe of his right lung was infiltrated and evidently breaking down. Within a few days from my examination he was taken with a chill, and pneumonia of the left lung developed itself. In some three weeks he had about recovered from the pneumonia attack, but it was then found that about one-half of left lung was infiltrated and showed no tendency to resolution. On the contrary, the disease steadily advanced until the entire left lung was completely infiltrated and no respiratory murmur could be detected in any portion of it. About four months after I first saw him, he had some alarming hemorrhages. He had these hemorrhages at intervals for two or three months. In January last I found that the lower lobe of the right lung was involved, and was fast breaking down before the disease.

About this time I began to give him hypodermic injections of morphine and atropine to relieve his cough. Nothing else would alleviate it. After a few visits the patient purchased a hypodermic syringe and began using it himself. I had only given him about half a grain a day, on three or four occasions; but when he had a syringe himself the expected result followed. He gradually increased the doses both in frequency and quantity, until within five months he was taking from four to seven grains of morphia hypodermically. He regarded death as inevitable; and, as I agreed with him, very little medicine was prescribed and none taken. I suggested a number of things, but he would not take more than two or three doses of anything.

At first I could not induce him to take any whiskey, or anything containing alcohol; but after he began the use of morphia he also began the use of whiskey, and for the last six months has drank on an average perhaps twelve ounces per day.

I occasionally examined his lungs, and after he began the use of morphia found that there was no further extension of the disease. The mucous râles disappeared from the base of right lung though some induration was left. The left lung, when I examined it, a month ago, was in about the same state as it was eight months ago. It is practically solidified, and no vesicular murmur can be detected in it. Large mucous râles can be heard sometimes over some portions of it.

The history of this patient would lead us at once to suppose that the disease was hereditary. One parent and a brother died of the disease.

Now what has arrested the disease? For arrested it is. The patient, after remaining in bed for about a year, began to get up, and now he is often on the streets and goes hunting whenever he wishes. He has in the last four months gained several pounds in flesh. I have often seen patients die from consumption, in spite of whiskey given in large doses; but this is the first patient I ever saw who rapidly acquired the morphine habit and used a large quantity daily. There is nothing in the physiological action of morphine to lead us to suppose, *a priori*, that it would arrest tuberculosis; but sometimes clinical experience has shown properties in drugs quite different from those which the laboratory has shown, or experiments have led us to conclude.

I should probably not have written this, had I not noticed some time ago a case where a man who was thought to be dying with consumption was given opium for a chronic diarrhœa, and soon began using large quantities of the drug; the result being that, while for many years—sixteen, I believe—he has been a confirmed opium eater, consuming about thirty-six ounces per year, he is still alive.

I don't write this for the purpose of inducing any one to try the experiment. It might be questionable, whether death would not be preferable in many cases to continual ill-health and the opium habit combined; for if such patients lived they could not hope to regain health and vigor unless the disease was arrested very early. But, if anybody has seen any case where life has been greatly prolonged by the use of opium I would like to hear from them. Did any one know an opium eater to die of consumption?

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## THE GENERATIVE ORGANS OF WOMEN IN PRIMITIVE STERILITY.

BY WILLIAM A. CAREY, M. D.,

ASSISTANT PHYSICIAN TO THE DISPENSARY FOR DISEASES OF WOMEN, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

In an address delivered before the Medical Society of London, some years ago, Mr. I. Baker Brown expressed the hope that he might be able to stimulate his hearers to more diligent work in the study of the causes and treatment of sterility. The charge was made that reputable members of the profession were too indifferent towards this subject and, by reason of their apathetic attitude, allowed patients to fall into the hands of charlatans, who were ever ready to profit by the forlorn condition of their victims. Although essays have appeared since the time of Dr. Brown's address, and a more comprehensive idea of the subject is possessed, yet there are many physicians who still have a superficial knowledge of the condition and regard it as of little importance. This disposition, on the part of physicians, is reflected upon patients, and many fail to seek advice and treatment, upon the supposition that nothing can be done for their relief—that they "were born so" and are of necessity beyond the reach of medical or surgical assistance. A knowledge of the manifold causes of sterility is essential to the expression of an opinion regarding the prognosis in a given case. But how many physicians have only one or two ideas about the condition of the pelvic organs in such patients? They will probably expect to find a well-marked inflammation of the uterine mucous membrane, or, perhaps, a decided flexion. Failing to discover either of these abnormalities, they are not prepared to estimate the patient's prospects for improvement, nor to advise her in reference to treatment.

The tendency of many is to attach undue importance to anteflexion of the uterus, with accompanying stenosis of the canal, as a cause of barrenness. When it is present, it doubtless sustains a causative relation to the trouble; but that it is as frequent a cause as some assert, I cannot believe, and am of the opinion that a uterus in its normal state of anteflexion, and free from constriction at the internal os, is frequently mistaken, by those unskilled in the methods of examination, for the pathological condition alluded to. Dr. Beresford Ryley, in a recent contribution to this subject, states that "constriction of the mouth of the uterus is of very frequent occurrence" and that it is in his opinion "the cause of nine-tenths of the cases of sterility that are met with in practice."

This estimate is extreme, and the condition of the generative organs as presented in the table accompanying this paper, will not show "constriction of the mouth of the uterus" to figure so prominently in the pathology of barrenness. The statement quoted probably applies to sterility, whether primitive or acquired; but its exaggerated tone is none the less evident, for, I think, it will not be gainsaid that the acquired form of sterility will exhibit disease of the Fallopian tubes, far more frequently than any other condition, and will be associated with a patulous state of the os and canal of the uterus, rather than with constriction of these parts.

The cases tabulated have been collected from the records of the outdoor service for women, at the University Hospital, Philadelphia. They have not been selected, but taken *seriatim*, from a total of about 1300 patients. The number of sterile cases in the list is 110, or about 8.5 per cent. of those applying for treatment at this dispensary, during a certain period of time. Women married less than a full year have not been included, and there are but few who have not been married over three years. It is to be borne in mind that no case of acquired sterility, but only women who have never been pregnant, are comprised in this report.

## DISORDERS OF THE UTERUS.

| | No. of Cases. |
|---|---|
| Congenital absence of uterus and appendages,[1] | 1 |
| Failure of development, | 1 |
| **MALPOSITION.** | |
| Anteflexion with stenosis, | 14 |
| Anteflexion without stenosis, | 2 |
| Anteflexion with retroversion, | 2 |
| Anteflexion with retroversion and prolapse of left ovary, | 1 |
| Retroflexion, with endometritis, | 4 |
| Prolapsus, incomplete, | 1 |
| Procedentia, | 1 |
| Hypertrophic elongation of the intra-vaginal cervix, | 1 |
| **INFLAMMATION.** | |
| Endometritis, catarrhal, 4 / fungoid, 2 | 6 |
| Metritis, | 2 |
| Perimetritis with cystitis, | 2 |
| **TUMORS.** | |
| Fibroid (subperitoneal), | 5 |
| " (intramural), | 3 |

## DISORDERS OF THE OVARIES.

| | |
|---|---|
| Prolapse, but freely movable, | 4 |
| " and fixed by cellular deposits, | 3 |
| " and enlargement of left ovary | 3 |
| Inflammation, | 10 |
| Neuralgia, | 3 |
| **DEGENERATIVE CHANGES.** | |
| Cyst of left ovary, | 1 |
| Cyst of both ovaries, | 1 |
| Dermoid cyst, | 1 |
| Intraligamentous, | 1 |
| Fibroid degeneration of left, | 1 |
| Tumor (?) of left ovary with abscess, which discharges through the fistulæ on the inner aspect of thigh,[2] | 1 |
| **DISEASES OF OVIDUCTS.** | |
| Salpingitis, left side, | 1 |
| Salpingitis, double, | 3 |
| Pyosalpinx, left, | 1 |

## DISEASE OF BOTH OVARIES AND TUBES.

| | |
|---|---|
| Ovaritis and salpingitis, | 7 |
| The same with involvement of the cellular and peritoneal tissues, | 5 |
| **DISORDERS OF THE VAGINA.** | |
| Inflammation, | 1 |
| Spasmodic contraction with urethral caruncles, | 1 |
| Rectocele and cystocele, | 1 |
| Cystocele, | 1 |
| **MISCELLANEOUS.** | |
| Atrophy and onset of menopause, | 4 |
| No demonstrable pelvic lesion, | 3 |
| Number of cases that refused examination and cannot, therefore, be classified, | 7 |
| Total, | 110 |

[1] Reported in *University Medical Magazine*, Sept., 1889.

[2] Laparotomy will soon be performed upon this last patient.

It will be observed that seven of these patients refused examination and therefore cannot be classified. Four complained of symptoms due to menopause and had nothing beyond an atrophic change taking place in the genitalia. In addition to these eleven cases there were three with no discoverable pelvic lesions. One of these, although 23 years old, and apparently well developed, had never menstruated. The vagina was properly constructed, the uterus had an internal measurement of 2½ inches, fundus anterior, with no stricture of the canal or endometritis; and absence of any disease in the tubes and ovaries. The development of the escutcheon was not noted. This case might be designated as one of sexual apathy. The other two cases might be placed in the same category, or their barrenness be explained by the assumption of disease in their husbands. This leaves a balance of 96 cases, in four of which there were diseases of the vagina; and the remaining 92 cases are equally divided between disorders of the uterus and disorders of the ovaries and tubes.

The commonest uterine disorder in the list is malposition, numbering 26 cases, 19 of which are anteflexion with obstruction at the internal os. Two of these presented no special difficulty in the entrance of a uterine sound at the heighth of the intermenstrual period, but, judging from the dysmenorrhœa complained of, the canal, undoubtedly, became so constricted by the turgescence accompanying menstruation, that stenosis existed at these times. The next uterine disease in order of frequency is inflammation of the mucous, muscular, or peritoneal portions of the organ. These number 10 cases. As would be supposed, endometritis existed in some of the flexions and other disorders of the uterus, but it was of a milder type than in those cases which receive the diagnosis of "inflammation" of the different tissues of the uterus. Inflammation of the tubes and ovaries, plus the cases of congestion (the earliest stage) and of degenerative changes (usually the result of inflammatory action) make a total of 46 cases.

While the diseased condition of the organs of generation, as here outlined, may not, in every case, be a cause of sterility, but exists as a result, yet, in the majority of cases it sustains a causative relation to the non-productiveness. It is easy to comprehend how an acute anteflexion with stenosis of the uterine canal, may prevent concep-

tion by obstructing the entrance of the spermatozoa. Also, how in cases where no harmful disease of the uterus exists, impregnation may fail because of disease in the ovaries, sufficient to interfere with the development of the Graafean follicles. And again, how the same end may be defeated through pathological changes in the structure of the Fallopian tubes, on account of which the ovum is not propelled onwards, from absence of the vermiform movements and proper action of the ciliated epithelium; or because a barrier of inflammatory exudate is interposed between the two germinal elements.

It is rather more difficult to understand, how sterility can be caused by an incomplete prolapse of the womb. Even though in these cases the proper relation between the cervix uteri and male organ be disturbed, and the act of insemination be to that extent incomplete, pregnancy should occur if the spermatozoa possess the remarkable vitality and activity attributed to them. When the cervix has undergone hypertrophic elongation and projects beyond the vulva, the difficulty of depositing the seminal fluid in a favorable situation is obviously increased.

Chronic endometritis, unless of an aggravated form, would not be so apt to interfere with the union of the male and female elements of reproduction, but to cause the premature expulsion of the product of conception, from disease of the decidua. The presence of the fibroid tumors of the uterus is antagonistic to impregnation, chiefly from the diseased state of the endometrium which co-exists. Rectocele and cystocele probably act by preventing normal insemination. Acrid secretions arising from vaginitis may destroy the life or impair the activity of the spermatozoa. Vaginismus and urethral caruncle operate in a more complex manner — the pain experienced probably interfering with the evolution of the sexual orgasm.

In addition to the causes of sterility already mentioned might be noted: polypus, cancer, imperforate hymen, contracted orifice of the vagina, certain disorders of rectum, such as fissure, hemorrhoids and prolapsus ani, as well as secondary syphilis, or any disease which profoundly affects the health of either husband or wife, and, lastly, preventive measures.

The conclusions to be drawn from an analysis of the cases presented in the paper, are:

The most frequent cause of sterility is disease of the ovaries and tubes, whereby ovulation is prevented, or, where ova are developed, their transit through the tubes is obstructed. This condition exists in about 38 per cent. of cases.

The next cause in order of frequency is anteflexion of the uterus with stenosis. It occurs in 14½ per cent. of cases.

Inflammation and tumors of the uterus rank next, the percentage being about 15 for the former and half that for the latter.

Congenital absence of the uterus and appendages occurs once in one hundred and ten cases.

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## SALOL IN THE PRESENCE OF DIGESTIVE FLUIDS.

BY H. A. BISHOP,

PROVIDENCE, R. I.

PHENYL SALICYLATE. Salol, $C_6H_4(OH)$, $CO.O.C_6H_5$.

Salol, taken internally, first comes in contact with gastric juice secreted by the lining membrane of the stomach, an acid liquid containing hydrochloric and lactic acids. It passes thence into the duodenum, where it is subjected to the action of the bile and pancreatic juices. Bile consists chiefly of a solution of the two salts known as sodium glycocholate and sodium taurochlate, and has an alkaline character. The pancreatic juice is another alkaline secretion, differing from the bile in containing an albuminoid body. From a consideration of the chemical agents with which the salol comes in contact, I conclude that the decomposition is not due to the acid condition of the stomach. Further, the subsequent decomposition in the duodenum cannot be due to the resinous acids, acid glycocholic ($HC_{26}H_{42}NO_6$) or acid taurocholic ($HC_{26}H_{44}NO_7S$) existing as sodium salts in the bile and pancreatic juices; because resinous acids are incapable of neutralizing an alkali.

The decomposition then must be due to the alkalinity of these juices. This conclusion is supported by the fact that salol is very readily decomposed and saponified by weak alkalies. This view receives confirmation from the fact that salol is decomposed and exists as phenol ($C_6H_5OH$) and salicylic acid ($C_7H_6O_3$), which can be detected in the urine. The latter is partly excreted, and

occurs probably as acid salicylic ($C_7H_6O_3$) and acid salicyluric ($C_9H_9NO$ ). The phenol probably enters the blood as an alkaline carbolate, and acts as phenol introduced alone. The salicylic acid is probably not rendered any more useful by the presence of phenol.

From these facts it would seem that salol has no advantage over phenol and salicylic acid, introduced as such ; and it should not be indiscriminately used with antipyrin or phenactin in the same prescription.

## PERISCOPE.

### Pathology and Biology.

At the opening of the new building of the Biological Department of the University of Toronto, Dec. 19, 1889, Dr. William H. Welch, of Johns Hopkins University, delivered an interesting address on "Pathology in its relations to Biology," in the course of which he said: Pathology has to do with abnormalities, not in man alone, but in all living things, both animal and vegetable. The points of contact between animal and vegetable pathology are more numerous than might at first glance appear. The student of animal pathology can draw many instructive lessons from such subjects as the behavior of wounds and the parasitic affections in plants. We are most of us probably inclined to think too much of the separation between the pathology of man and that of the lower animals. While there is a wide distinction in the dignity of the object of study, yet from a scientific point of view this separation is of little account. Pathological investigations of diseases of animals constitute no less genuine and valuable contributions to pathology in general, than do similar investigations of human diseases. The advancement of recent years in the education and aims of those who devote themselves to animal pathology, will serve to bring into closer relations the students of human and those of comparative medicine.

There are many diseases which are common to man and to animals. These can often be studied to greater advantage upon animals in which many conditions can be controlled, which are beyond our control in man. In animals every stage of development of the disease can be studied, and, in general, fresher material can be obtained. We can modify in various ways external and internal conditions so as to reach a clearer comprehension of the morbid processes. Moreover the same disease may present interesting pathological peculiarities in different species of animals, so that the study of its occurrence in a single species affords most incomplete knowledge. For instance, the pathologist whose sole knowledge of such a disease as tuberculosis is derived from the study of the disease as it occurs in man, has a far less complete understanding of this affection than one who is also familiar with the striking peculiarities of this affection in cattle, swine, fowls and other animals.

Especial importance attaches, of course, to the study of such diseases as are communicable from animals to man, as for instance, anthrax, glanders, tuberculosis, many entozoic affections, etc., and in general these are the animal diseases which have received the most attention from the students of human pathology.

There are as many general pathological processes which can be studied to better advantage in animals than in man. Such subjects as inflammation, œdema, thrombosis, embolism and infection have been elucidated in large part by observations made on animals. Due caution is of course to be exercised in applying such observations directly to human beings.

Inasmuch as it is rarely possible for us to produce artificially all of the conditions which cause natural diseases, and as our very method of experimentation is in itself often a perturbating factor, it is no less important to study animal diseases resulting from natural causes than it is to study the same diseases experimentally produced. Of course there are many diseases which have not yet been opened to the experimental method of investigation.

A most important and promising field of pathological study, at present only partly cultivated, is found in the infectious diseases of animals and of plants, not only on account of the great economic interests often involved, but also as a means of widening and deepening our conceptions as to the causes, development, prevention and treatment of infectious diseases in general. Any pathologist who is at all familiar with the remarkable and peculiar conditions under which the so-called Texas Cattle Fever of the United States develops and spreads, will realize that the complete elucidation of all the etiological factors of this disease not only

would contribute to the solution of a great economic question, but also would open fresh points of view in our conception of infectious agents and their properties. When we consider the many conditions which it is in our power to control in studying animal diseases, and above all the possibility of submitting to an experimental crucial test our conclusions, it is clear that the study of natural and artificial infections, as well as of many other diseases in animals, is calculated to advance in the highest degree the science of pathology. It is not a small thing that questions which were once considered to be wholly transcendental, as for instance the doctrine of immunity against infectious diseases, have been brought within the working domain of experimental pathology.

## Treatment of Intestinal Occlusion.

Dr. Kollman mentions in the *Münchener Medicinische Wochenschrift* a case of occlusion of the small intestine in an old woman, who, after opiates and morphia injections, had been unsuccessfully given in order to arrest the violent vomiting, showed signs of such extreme weakness that operative measures were out of the question. He therefore determined to act on the lower part of the bowel by means of glycerine injections, while keeping the upper part of the intestinal tract quiet by the administration of ice and by ice-cold applications over the stomach. In this way the peristaltic action of the gut below the spot where the obstruction existed was stimulated while the part above this was kept at rest. The result was satisfactory, for on the second day a motion was passed and the patient recovered.—*Lancet*, February 22, 1890.

## Pretended Medical Journals.

The ignorance of many of the individuals who occupy positions as editors of the ephemeral, *soidisant* "medical" publications (almost invariably the personal organ of some quack or vender of quack medicines) is well shown in a recent number of *The Family Doctor*, a London publication of immense circulation. Its leading article was on the cocaine habit—the use of cocaine. It was embellished with a picture of a cocoa-nut palm in full fruit, and the article commenced by stating that: "Cocaine is a comparatively new drug, obtained from the leaves of the cocoa tree, which is a genus of the natural order of palms." This was nearly but not quite equalled by one of our eastern medical contemporaries, who recently copied an article from the *National Druggist* on a new artificial butter, said to be made in Germany from the meat and milk of the cocoa-nut, and added, sagely, "our St. Louis contemporary fails to state whether the fruit of which use is thus made is that of the *cocoa nucifera* or *cocoa erythroxylon*."—*National Druggist*, Feb. 15, 1890.

## To Clear Waste Pipes.

At night, pour into the clogged pipe enough Banner lye to fill the trap or bent part of the pipe. Be sure that no water runs in it until the next morning. During the night the lye will convert all the offal into soft soap, and the first current of water in the morning will wash it away and clear the pipe clean as new. One thing is very important to remember, namely, that the lye is a most powerful caustic and very dangerous if used carelessly. It should never be left where children could possibly get at it.

## Retroperitoneal Hernia of the Vermiform Appendix.

At the meeting of the Pathological Society of London, held Feb. 4, and reported in the *British Medical Journal*, Feb. 8, 1890, Mr. Lockwood showed a case of retroperitoneal hernia of the vermiform appendix. He said that in some of those cases in which operators had failed to find the appendix, it might have been hidden in a pouch behind the cæcum. It was questionable whether it was ever absent, except as the result of disease. The hernia he showed was not particularly rare; within a year he had found two complete and one partial case. The appendix might permeate into either the subcæcal fossa or into the ileo-cæcal fossæ. The causation was either developmental or pathological. The subcæcal fossa was formed during the descent of the colon, and in one case the appendix had probably become immured in it during its formation. In the other case there was, in addition to the hernia of the appendix, a very large right inguinal hernia, and it was probable that the displacement of the ileac peritoneum which

had accompanied the formation of its sac had taken a part in the causation of the hernia. Retroperitoneal hernia of the vermiform appendix seemed, according to authors, sometimes to become strangulated. The morbid anatomy was very simple. When the cæcum was raised a small aperture was found beneath it leading into a large peritoneal pouch behind the ascending colon. The appendix lay within this pouch, either free or attached by a mesentery.

## The American Physique.

Dr. J. B. Hamilton, of the Marine Hospital Service, is quoted by the Boston *Medical and Surgical Journal* as deprecating the slight attention paid in this country to a proper development of the physique. In an address before the Georgetown Medical College on "Ancient and Modern Physical Culture," he illustrated his subject by an estimate that not one-third of our population of the military age would be able to pass the physical examination of the recruit. —*Journal of the American Med. Ass'n*, Feb. 22, 1890.

## Town Refuse Used for Fuel.

The municipality of Southampton, England, lift a portion of their sewage and sludge by the Shone hydro-pneumatic system without incurring any cost for fuel, as the solid refuse of the town is burnt in one of Fryer's destructors, and in so doing steam is generated by passing the products of combustion through boilers specially constructed for driving the air-compressing engines required to work the ejectors.

It must, however, be stated that the refuse burned is from a population of 60,000, whilst only the sewage from the low-lying portion of the town, containing 13,000 inhabitants, is lifted by the ejectors. The sewage is raised from the low-level sewer into reservoirs for treatment, the lift being 18 feet. The purified effluent and the sludge from the reservoirs is also raised by means of the hydro-pneumatic ejectors, the former being discharged into the sea whilst the latter is transmitted through cast-iron pipes about a mile in length to the Corporation wharf to be mixed with road sweepings, etc. This makes a good dry portable manure and is readily bought up by agriculturists.

The heat from the destructors not only drives the air-compressing engines, but it is also utilized for working electric-lighting plant, and compressed air is supplied to the Local Board of Shirley and Freemantle, two miles distant, for working a Shone ejector put down in connection with the disposal of the sewage sludge. The town refuse of Southampton, which amounts to about 50 tons per day, and consists largely of ashes and cinders, is generally collected in a fairly dry condition. The 50 tons produces about 70 indicated horse-power.—*Engineering and Building Record*, March 8, 1890.

## A Piping Focus.

A proposition mooted some weeks ago in the city papers for the building of a milk pipe line from a point in New York State to this city provoked a rather general smile, and the matter was treated as a joke. The projectors were, however, it seems, in sober earnest. A company with a capital of $500,000 has, it is announced, been formed at Middletown, N. Y., for the purpose of constructing such a line. The proposed method of forwarding the milk is in cylindrical tin cans surrounded and propelled by water, and the promoters of the scheme assert that the time of transportation for a distance of 100 miles will not exceed an hour, while the profit will be about one cent a gallon. If this sort of things goes on, we need not be surprised to find New York the converging point not only of oil, natural gas and milk pipe lines, but of whiskey ducts from the blue grass regions, and beer ducts from Cincinnati, St. Louis and Milwaukee.—*American Analyst*, Feb. 27, 1890.

## Anæsthetics in Suits for Damages.

According to a recent report in the *Boston Med. and Surg. Journal*, the *Jour. de Méd.*, of Paris, June 2, 1889, stated that a man who was injured in Paris by the fall of a stone from a church had brought a suit for damages in an action of tort. An examination of the plaintiff by medical experts was agreed to by the counsel, and three physicians were selected, who, in order to decide whether or not the man was simulating the paralysis of which he complained, proposed to anæsthetize him. To this proposition he naturally objected,

protesting that the examination was dangerous and that anæsthetics sometimes caused death. The experts, he said, could not insure him against a fatal effect of their operation; and their proposal was contrary to the letter and spirit of the commission under which they acted and to the fundamental principles of personal rights and the rules of legal medicine. He contended that a procedure of this kind was permissible only when it had for its object the saving of life or the cure of a patient. One might, perhaps, admit its necessity and legitimacy in a criminal case with reference to an accused person; but when an attempt was made to use it upon the victim of an accident, who was seeking the repair of a wrong which had been done him, it would be an unlawful attack upon personal liberty.

The court, as might have been expected, took the same view of the matter, and directed the experts to proceed with their examination, confining themselves strictly to the terms of their original instructions.

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## Early History of Water Supply.

*The Sanatarian*, February, 1890, quotes *Maverick's National Bank's Manual* as saying that during the first century of our era the water supply of ancient Rome was so abundant "that whole rivers of water flowed through the streets." It has been estimated at 375,000,000 gallons per day, or 375 gallons for each inhabitant, and was conducted through nine costly conduits of masonry, in whose construction wonderful engineering skill was shown. Their aggregate length was 249 miles. The principal aqueducts were the Aqua Martia, erected 431 B. C., 38 miles in length, and partly composed of 7,000 arches; the Aqua Claudia, a subterranean channel for 36¼ miles, for 10¾ miles a surface conduit, 3 miles a vaulted tunnel, and 7 miles on lofty arcades, with a capacity of 96,000,000 gallons daily; and the Nova Anio, which was 43 miles in length. Some of these aqueducts rose in three distinct arches, which conveyed water from sources of different elevations. In Constantinople, the capital of the Eastern Empire, the Romans left numerous subterraneous reservoirs covered with stone arcades resting on pillars. In France, also, the famous Pont du Gard aqueduct, which supplied the town of Nismes, is still an object of interest. It consists of 3 tiers of arches, the lowest of 6, supporting 11 of equal span in the central tier, surmounted by 35 of smaller size. Its height is 180 feet, with a channel 5 feet high by 10 wide; the capacity was estimated at 14,000,000 gallons per day.

India is noted for numerous ancient impounding reservoirs of vast dimensions. The Poniary reservoir has an area of 50,000 acres and banks 50 miles in extent. In Mexico and Peru the aborigines left water channels of wonderful length. The great aqueduct of Peru, built by the Incas, was 360 miles long.

The works of the Romans left nothing to be improved upon in the method of transporting water from a distance until recent times; but in the early part of this century it was found that by sinking artesian wells a supply could be obtained more economically.

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## Recent Saving of Life in Michigan.

In a carefully-prepared paper, read before the Sanitary Convention at Vicksburg, the proceedings of which are just published, Dr. Baker gave official statistics and evidence which he summarized as follows:

"The record of the great saving of human life and health in Michigan in recent years is one to which, it seems to me, the State and local boards of health in Michigan can justly 'point with pride.' It is a record of the saving of over one hundred lives per year from small-pox, four hundred lives per year saved from death by scarlet fever, and nearly six hundred lives per year saved from death by diphtheria—an aggregate of eleven hundred lives per year, or three lives per day saved from these three diseases! This is a record which we ask to have examined, and which we are willing to have compared with that of the man who 'made two blades of grass grow where only one grew before.'"

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## Dengue in Constantinople.

In the *Wiener med. Wochenschrift*, December 28, 1889, Dr. Constantine Malcas describes the appearance of dengue in Constantinople. He says dengue fever, three-day fever, break-bone fever, dandy fever, scarlatina, rheumatica, abou-recabe, abou-abou, fièvre polia, brockenring fever, etc., for this interesting malady has many an alias,

appeared, towards the end of June, in one of the unhealthiest districts of Constantinople, a district noted for its unhealthy sanitary arrangements, and for being, almost always, the starting point of every important epidemic. From hence, as from a centre, the epidemic radiated all round, infecting first the nearest districts, and then the more remote, until, finally, not a spot of the town or suburbs escaped. Most probably infection came from the region between Smyrna and Constantinople, having raged there a short time before, and revived again with the long continued rains. As regards its character, dengue is a highly infectious eruptive fever, returning one or more times. It is sporadic or epidemic, mostly sudden in its onset, and characterized by violent pain in the head, joints and muscles, as also by prostration, and a lengthy convalescence lasting for weeks. It is thus pretty clearly defined, and would not be apt to be mistaken, except perhaps in some cases, for measles and scarlatina. It differs from the last in the absence, almost invariable, of angina and albuminuria, and presence of pains in the joints and muscles, and it differs from measles in the absence of catarrh, and in the course it runs.

Our author having observed 650 cases, describes a typical case. "In most cases dengue begins suddenly with a mild or severe rigor, which, however, is never so strong as that of intermittent fever. Sometimes the disease is heralded for one or more days by general malaise, headache, loss of appetite and troubled sleep. With the rigor the temperature rises from 38.5 up to 39.5, and general pains arise of head muscles and joints. The patient lies powerless, feels as if he had been broken on the wheel, his face is reddened [prodromal eruption], his eyes are slightly or severely congested and sparkling; he carefully avoids every motion, so as to prevent an increase of his pains and the disagreeable feeling of cold. The skin is rosy red, warm, dry. The breath has a peculiarly bad smell, *fætor ex ore*. The tongue is broad red at the point and sides, and covered with a thick, yellow, or grayish-white coat. The mouth is extremely bitter and dry. At the commencement of the illness there is frequent vomiting, or during the whole illness a persistent inclination to vomit. Thirst is not always present. Bowels costive, diarrhœa but seldom. After from two to four days the temperature gets normal, the pains gradually lessen or altogether vanish, the patient lies for days or weeks in great prostration and weakness, suffering still from the bitter taste in the mouth and the lack of appetite. On the fourth or fifth day of the illness the rash appears, accompanied by more or less severe itching. This, with scaling of the skin, disappears in from five to eight days, and the scene ends with *restitutio ad integram.*"

One thing to be noted is that the liver and spleen are quite normal. The prognosis is exceedingly good. Death is a rarity, and when it occurs is due to accompanying ailments, and not to the disease itself. The treatment is, except in the case of violent symptoms, to stand aside and let the disease run its course.—*Manchester Med. Chronicle*, February, 1890.

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## Orexin.

Orexin is the name given to a new and complex synthetic product recently introduced in Germany. It is notable as "breaking the record" of the new synthetics, being neither an antipyretic, analgesic, nor soporific, but a stomachic and appetite producer—hence its name, being derived from *orexis*, appetite. Chemically, it is phenyldihydrochinazolin, and is one of a series of products prepared by MM. Paul and Busch, and is described as being a derivative from chinazolin, a term applied to a compound represented by a structural formula differing from that of chinoline in having two CH groups of a naphthalene ring replaced by N, instead of one. The *Pharmaceutical Journal and Transactions*, commenting on the substance, says that orexin hydrochloride is reported to have been used by Professor Penzoldt in thirty-six clinical cases, in most of which appetite is said to have been induced and the digestion stimulated. In the case of healthy persons the appetite is stated to increase immediately after the first dose, but with most patients the improvement is manifest after some days. The formula recommended for administration is two grams of orexin hydrochloride made up with extract of gentian and althea powder into twenty pills, gelatin-coated, three to five of which are to be taken once or twice daily with a large glassful of meat broth, a considerable quantity of liquid being required on account of the pungent properties of the compound.—*National Druggist*, March 15, 1890.

THE
MEDICAL AND SURGICAL
REPORTER.

ISSUED EVERY SATURDAY.

CHARLES W. DULLES, M.D.,
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NEVER ROLL A MANUSCRIPT! Try to get an envelope or wrapper which will fit it.
When it is desired to call our attention to something in a newspaper, mark the passage boldly with a colored pencil, and write on the wrapper "Marked copy." Unless this is done, newspapers are not looked at.
The Editor will be glad to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

## ELECTRICITY IN THE TREATMENT OF EXTRA-UTERINE PREGNANCY.

No question in the whole domain of medicine has aroused greater interest than that of the proper treatment of extra-uterine pregnancy in the early months. In this country the use of the Faradic or of the Galvanic current, to kill the embryo and to arrest the growth of the ovum was for a number of years the recognized method of treatment. After a time, however, the advocates of the removal of the gestation cyst by abdominal section, forced attention to the fact that in many cases the gestation sac or the ovum has ruptured, and internal hemorrhage has taken place where the case comes under observation. At the present time the use of electricity is only advocated prior to rupture and internal hemorrhage. But even this position is now attacked by the advocates of exsection, on three grounds: first, it is denied that it is possible to make a diagnosis of extra-uterine pregnancy prior to rupture and hemorrhage; second, that if the fetus is killed the placenta may continue to develop and cause rupture of the sac with fatal hemorrhage; and third, that the dead ovum is a foreign body liable to produce inflammation and suppuration, and to cause all the evil effects of a pyosalpinx. Those who have no theory to defend are prepared to believe that a reasonably positive diagnosis of extra-uterine pregnancy can be made prior to rupture. At the same time it must be admitted that mistakes will occur, just as is the case in the diagnosis of other small masses in the pelvis, such as pyosalpinx or small ovarian tumors. The second objection will hardly decide any practical man for or against the use of electricity as a feticide in extra-uterine pregnancy. The third objection is one of large interest, and one which can be determined by the after histories of cases of extra-uterine pregnancy which have been treated by electricity.

This point has been investigated by Dr. A. Brothers, in a paper read before the New York Academy of Medicine, based on fifty-four cases of extra-uterine pregnancy treated with electricity. He states that the immediate effect of using electricity in the vast majority of cases has been an abatement of symptoms due to the growth, and a marked diminution in its size. In three cases the fetus was probably expelled into the uterine cavity. In two, suppuration with discharge of the fetus occurred, but the patients made a good recovery. Death occurred in five cases; but in only one can it be attributed to electricity. In this case—of Janvrin—hemorrhage occurred from the sac wall. In the other four fatal cases, electro-puncture was the method employed in two; while in the third, simple puncture of the cyst, after electricity had been discarded, was responsible for the fatal result; in the fourth, the fetus was finally killed by injections of

morphine, and afterwards laparotomy was done.

By correspondence, Dr. Brothers has been able to trace the history of twenty-five cases observed for periods ranging between one and eight years after the employment of electricity. In this way he is able to state that twenty-four patients, reported as cured, have been heard from after the lapse of from one to eight years, and that when last seen all were reported well. Many of them still carried traces of the old trouble, and while it is not possible to assert that these little masses may not in time become troublesome, still the fact remains that up to the present time they have not done so.

The conclusions of Dr. Brothers—which may be accepted as those of the advocates of the electrical treatment—are as follows: 1. The risk of rupturing the sac of an extra-uterine pregnancy, and of causing death by internal hemorrhage, is slight. In but one case has this possibly occurred, that of Janvrin, and in this the reporter himself thought the danger existed prior to the use of electricity. 2. Suppuration of the dead fetal mass has not occurred in any case in which electricity was employed before the third month. 3. After the third, or possibly the fourth month, electricity should not be used. 4. Electro-puncture is to be condemned in all cases. 5. In cases of mistaken diagnosis no harm is done by the electrical treatment. 6. By the use of Galvanism or Faradism, early extra-uterine pregnancies can be checked in their growth, and caused to disappear entirely or to become shrivelled up. These remaining masses have thus far caused no subsequent trouble.

These conclusions are based on very considerable evidence, and are certainly entitled to careful consideration. They will be accepted by all who are not radically opposed to any other treatment of extra-uterine pregnancy but exsection. These conclusions, however, very much weaken the position of the advocates of electricity. It is not to be used after the third month, and not after the occurrence of internal hemorrhage. Hence the treatment is entirely inapplicable to all cases not coming within these limitations. And in its own field the plan of treatment comes into competition with the exsective operation; which, done under the circumstances by a skilled operator, is practically without mortality.

While professional judgment concerning this question has not yet crystallized, it is setting strongly in favor of the exsective operation when the services of a skilful operator are available, and with this view we are heartily in sympathy. At the same time medical men are certainly justified from the evidence produced by the advocates of electricity, in employing the Faradic or the Galvanic current under the conditions laid down by Dr. Brothers. When a skilful surgeon is not at hand, undoubtedly the electrical treatment offers greater inducements than abdominal section performed by a novice.

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## EVASION OF THE MEDICAL PRACTICE LAW IN VIRGINIA.

The Medical Examining Board of Virginia, which is recognized by all who are interested in elevating the standard of medical proficiency in the United States as one of the most valuable institutions in the country, is just now being brought to public notice by some of the newspapers of Virginia, because the *Virginia Medical Monthly* insists that a woman, who was recently appointed to be Assistant Physician in the Western Virginia Lunatic Asylum, ought to be made to pass the examination of the Board—as we certainly think she should, under the law of Virginia.

This woman is a graduate of the Woman's Medical College, of Philadelphia, and the *Vindicator*, of Staunton, Va., objects to her being examined on the ground that one who had received a diploma from this excellent school might be assumed to be competent to pass a fair examination by the State Exam-

ining Board. This sounds as if it ought to be so. But that the inference is not warranted by the facts is pointed out by the editor of the *Virginia Medical Monthly*, in the issue for March, 1890. Dr. Edwards here states that, during the examinations at Roanoke, Va., last September, twenty-six persons applied for examination (three of whom, however, were not graduates), and only eight graduates of medicine were found qualified to enter upon the practice of medicine. And yet the fifteen rejected graduates held diplomas from medical colleges in every particular the equal in ability, opportunity and fidelity of the professors of the Woman's Medical College, to teach and to graduate only upon supposed merit.

More than this, as our contemporary points out, the proposition that this woman shall be permitted to do what is plainly a breach of the law is wrong in itself, without regard to her character or attainments. It also threatens the prospects of other States, such as Virginia, North Carolina, Alabama, Florida and Minnesota, which have established, or are establishing, medical practice laws.

The Medical Examining Board of Virginia is only five years of age. It was never in contemplation by the profession, in seeking the medical practice Act, to displace medical men from positions already reached, but, letting the past alone, and establishing a new era of progress, the profession of Virginia put into existence, under law, on January 1, 1885, the Medical Examining Board of Virginia. Since then this Board has rendered efficient services to the State and to the country by testing impartially the qualifications of all, so far as known, who have entered the profession in Virginia. Through this most valuable agency the people of that State are deriving untold benefit by having only competent physicians sent to them, while the profession itself is gradually resuming the rank it once held among the learned in science and letters.

In referring to this case we feel sure that the readers of the REPORTER will extend their hearty sympathy, and what support they can, to the State Examining Board of Virginia and those who demand that no one shall be allowed to evade the legal portal to practicing medicine in that State. We may add, in conclusion, that any one who would attempt to do so might serve as a warning to deans of colleges and other complaisant individuals who too readily sign testimonials for applicants for public positions.

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## SEWERS AND WATER-SUPPLIES.

It is stated that the municipality of Benares, in India, intends to discharge the sewage of the city into the Ganges a few miles below the town. As India has no enactment similar to the English Rivers Pollution Act there is no power to prevent their doing so, nor to prevent other cities in the Ganges valley following its example, and thus converting the river into a sewer. The *British Medical Journal*, Feb. 8, 1890, commenting on this fact, says: It is understood that the Calcutta Health Society has taken the matter up, and it is to be hoped that the Legislature will interfere before what is now only a possible danger of the distant future becomes a serious menace to all towns on the lower Ganges, and before any money is expended on costly works which may have to be closed hereafter. The city of Benares contains about 190,000 inhabitants and the best method for disposing of their sewage is a difficult problem. The easiest way to get rid of it is to pour it into the Ganges. The depth of this river in front of the town, even in the dry season, is fifty feet, and in the month of September the freshets add more than forty feet to this depth. In the dry season the breadth of the river at this point is 600 yards, and it extends to half a mile in the rainy season; nevertheless the extension of sewers into the river is to be avoided as far as possible and it is proper to call attention to this interest-

ing instance of such a procedure. The danger to persons living on the Ganges below Benares, if the projected sewerage system is carried out, cannot be regarded as beyond question very great; for the demonstration of evil actually resulting from what is called sewage pollution by no means comes up to the measure of what is repeatedly predicted for it. Still, there can be no doubt that it is time the ingenuity and practical interest of thinking men had devised and put into operation some better way of disposing of sewage than casting it into running streams. Some concerted and uniform efforts ought to be made in every civilized country to have laws enacted to prevent any extension of the already too extensive practice of using rivers as receptacles of all the filth of the cities planted on their banks.

### PRECAUTIONS AGAINST CONSUMPTION.

The State Board of Health of Pennsylvania has recently issued a pamphlet containing a brief statement in regard to the nature and ravages of consumption, especially in this State, with an account of its mode of propagation by contagion, according to the views now held by many students of the subject, and some instructions in regard to the precautions to be observed in order to lessen the risk of its spread.

The whole pamphlet is worthy of careful study by physicians as well as by laymen, and its wide dispersion among the people could not fail to do good. Without committing ourselves to all the theoretical details of the pamphlet, we may say, that we regard it as a most excellent one, and can safely applaud its moderate and scientific tone, and the plainness with which its instructions are conveyed. It includes valuable suggestions for the inspection of cattle and articles of food, and for the destruction of any germs of tuberculosis which may be present in the latter. It also contains good advice to persons predisposed to consumption, as well as those who have already acquired the disease.

The whole pamphlet is worthy of careful study by physicians, as well as laymen, and its wide dispersion among the people could hardly fail to do much good. Copies of it may be obtained by addressing Dr. Benjamin Lee, of Philadelphia, Secretary of the State Board of Health of Pennsylvania.

## BOOK REVIEWS.

[Any book reviewed in these columns may be obtained upon receipt of price, from the office of the REPORTER.]

THE NATIONAL MEDICAL DICTIONARY: including English, French, German, Italian and Latin technical terms used in medicine and the collateral sciences, and a series of tables of useful data. By JOHN S. BILLINGS, A. M., M. D., LL. D., etc. 2 volumes quarto (10½x7½), pp. 731 and 799. Philadelphia: Lea Brothers & Co., 1890. Price, $12, cloth; $14, sheep.

These magnificent volumes may well assume the title of the National Medical Dictionary, partly because they were prepared at the seat of the great National Medical Library, and partly because they deserve an imposing title. With a number of able assistants Dr. Billings has prepared a dictionary, the like of which does not yet exist in the English language, and of a sort for which there was great need. So far as our examination of it goes, it is marked by great accuracy as well as great scope.

The typography and general plan of arrangement are admirable, and the whole work of the publishers fully equal in merit to that of the editor and his assistants; and this is saying a good deal.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF NORTH CAROLINA. Thirty-sixth Annual Session held at ELIZABETH CITY, April 16, 1889. 8vo, pp. 159. Wilmington, N. C.: Jackson & Bell.

The Transactions of the North Carolina Medical Society for 1889 include twelve papers, seven of these being the reports of the chairmen of the various sections. Among the original essays, that of Dr. L. G. Broughton, of Reidsville, on Aseptic and Antiseptic Midwifery, deserves special mention, although we cannot agree with Dr. Broughton's practice of giving half-gallon intra-vaginal douches, followed by a one-pint injection of an antiseptic solution, twice daily for a week or more after parturition. Again, in Dr. T. D. Haigh's excellent article on the Medico-Legal Aspects of Inebriety, the line drawn between drunkenness, as a crime, and dipsomania, as a disease, seems an almost indefinable distinction. Dr. Haigh advocates the establishment of asylums for inebriates, and that they should be treated as patients and not as criminals. Among the other papers, Dr. R. L. Payne's address on the Mental Factor in the Causation and Cure of Disease, is especially entertaining, as it is enlivened by occasional indulgence in humor and poetry. Some of the reports of the chairmen of the special sections are col-

lated from medical journals, and read more like abstracts than reports of committees. The papers are, however, of a high standard, well written, and show clearly that our North Carolina brethren are both active and progressive.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF ARKANSAS. Fourteenth Annual Meeting. 8vo, pp. 113. Little Rock, Ark.: Mitchell & Bettis, 1890.

The Transactions of the State Medical Society of Arkansas for 1889 include twenty-four papers and some reports. These are mostly quite short, and the greater part of them are made up of reports of cases. A predominence of gun-shot cases is noticeable; in fact very little space is devoted to anything besides surgery and official reports. Many of the papers contain much that is of clinical interest, and some of the cases reported are rare. Perhaps the most notable feature of the Transactions is the Address on Surgery, by Dr. T. W. Hurley, of Bentonville, Ark., which relates especially to the subject of senile hypertrophy of the prostate gland and the vesical troubles arising therefrom.

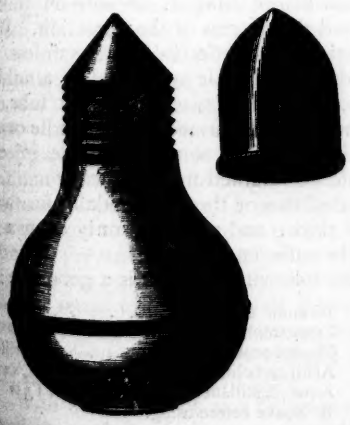
The Transactions show careful editing, are well printed, and are a credit to the Society.

## New Remedies and Appliances.

In this department, notice will be given of Remedies, Food Articles, and Instruments or Surgical Appliances of which specimens are sent to the Editor; it will bear the same relation to these articles that the department of Book Reviews now does to books.

### Urethral Syringe.

We have received from Dr. F. Wilhoft, of New York, what is known as the P. P. P. syringe. This little syringe measures 1½ by 2¾ inches, has a capacity of somewhat over half a fluid ounce, and is made of one



piece of the best soft rubber. It dispenses with the annoying piston, and injects by simply compressing the bulb with the thumb while its neck is held between two fingers of the right hand. To protect its soft conical point and to prevent pocket dust from entering it, a finely-constructed and finished hard rubber cap is screwed over it, which makes it air- and water-tight, and enables the patient to carry it full of the ordered injection in his pocket. The advantage of this arrangement, which facilitates frequent warm injections even during hours of business, should recommend it.

By compressing the bulb and relaxing the pressure several times, a perfect washing and cleansing of the mucous membrane of the urethra is possible.

## Correspondence.

### Electricity as a Remedial Agent.

To the Editor.

*Sir:* I am prompted by the excellent Editorial on "Electricity as a Remedial Agent" in the Reporter, March 22, 1890, to contribute a few remarks of my own on that subject, which is one that has long been of interest to me. The judicial and scientific spirit shown in the editorial is but characteristic of the pages in which it appears, and I cannot too warmly commend its clear presentation of the case; yet there are minor points touched upon on which I differ somewhat. In the first place I do not think it entirely just to the profession, as a whole, to say that it is prejudiced against electricity, as was claimed by the gentleman quoted in the editorial. It is my judgment that this statement should now apply only to those gynecologists who are so narrow in modes of thought as to look upon abdominal section as the principal indication in the diseases of women.

This subject has been a favorite study of mine for years, stimulated perhaps by a love of pure physics; and it has not been my experience to meet with real prejudice from any other class. Electricity has, on the contrary, been freely accorded a higher position than it deserves in the treatment of chronic organic diseases of the nerve centres; for in what publication upon such subjects can one fail to find it recommended? Perhaps there may be some reason for this in the incurable nature of these complaints, and the fact that nothing else has been actively used for them; for as soon as the field of its use is extended to those conditions that have been actively

treated, often successfully, by the abdominal surgeon, an intense antagonism is developed. These men have been curing many of their patients, though often at the sacrifice of a considerable percentage of lives and always at the cost of mutilating important portions of the body, and many of them still refuse to believe that their best results can often be attained by an agency that does not present these disadvantages.

As to the best mode of ascertaining the truth in this controversy, I agree, with some reservations, that "we need the experience and opinions of men who do not make a hobby, or a display, of treatment by any given method, but who are willing, carefully, patiently and conscientiously to try whatever seems likely to do good to the sick and suffering, and who faithfully report their results for the instruction of their fellows." If I could have the selection of such men I would be content with the results; but I fear much that the average selection of others would give men of so negative a character that the results would not be of the best. The display of a hobby is often associated with that technical expertness which is attained only by enthusiastic devotion; and so firmly do I believe this, that when I am of the opinion that my own abdomen must be opened I intend to call upon my opponents, the abdominal surgeons, to do the operation. That enthusiasm and the knowledge of a specialist can be combined with honesty, I do not think the REPORTER will deny.

But, that the attention of the profession may be directed forcibly into the proper channels I think that more than mere individual reports are essential, and it was in this spirit that I asked the Philadelphia County Medical Society to appoint a commission to pass upon my own work in the electrical treatment of fibroid tumors. The distinguished gentlemen that have been associated with me is a guarantee that the report will be a model one of its kind.

The subject of the value of electricity in medicine is not a general one, but distinctly a question of its value in definite, individual diseases, and the facts are therefore susceptible only of an empirical determination. In studying the results, both favorable and unfavorable, I have been led to conclude that it acts in either of three ways in the cure of disease, and as these conclusions have not previously been distinctly formulated, they may be of interest to your readers: The first and most important mode of action of electricity is the local one; and, as this can only be appreciable when a dense current is transmitted through tissue, this action is limited to a short distance from the poles—say an inch or so, in soft tissues, with a powerful current—and cannot be strongly applied to tissues covered by bony or densely fibrous material. This mode of action explains good results in truly peripheral diseases of the muscles and nerves in gynecology, and in diseases of the abdominal organs, and offers as ready a reason for the bad results often met with when the real seat of the disease is within bony cavities. The second mode of action is by apparent physiological stimulation, of which an example is the relief of old hemiplegic contraction or of sciatica by Franklinic sparks. The third mode of action is by pyschic impression.

Such a statement is useful as indicating in a manner the limitations as well as the field of this agent.

Yours truly,
G. BETTON MASSEY, M. D.
Philadelphia.

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## Treatment of Gonorrhœa and Gleet.

TO THE EDITOR.

*Sir:* I advise my patients to make water in order to clear out the discharge which has collected in the canal, that the mucous membrane may be freed from the purulent discharge before using an injection.

The patient is instructed to warm the injection before using it, because on this will depend the success of the operation. Warm injections are effective and painless. A standard glass male syringeful of a mild injection should be placed in a test tube, cup or saucer, and warmed over a candle or alcohol lamp before using it. The injection should be retained five minutes or more, and repeated two or three times daily for two or three days; and after that only once a day will be sufficient.

The following formula is a good one:

| | | |
|---|---|---|
| ℞ | Bismuth. subnitritis | ʒss |
| | Zinci sulphatis | |
| | Plumbi acetatis aa | gr. viii |
| | Acidi carbolici | ♏ xx |
| | Aquæ destillatæ | f℥iv |
| M. | S. Shake before using. | |

Yours truly,
R. J. MAINEGRA, M. D.
New Orleans, La.

### Hemorrhage from Umbilicus.

To the Editor.

*Sir:* My friend, Dr. Charles W. Jefferson, of Federalsburg, Caroline Co., Md., recently saw a case of umbilical hemorrhage. When called two or three days after delivery, he found the child's clothes saturated with blood. Upon inquiry he learned that the hemorrhage had been going on for thirty-six hours. The child was stripped and the oozing around the edges of the umbilical depression was perceptible, with the cord soft, gangrenous and nearly off. A piece of absorbent cotton steeped in Monsel's solution was applied, and the hemorrhage immediately ceased. Orders were left for this course to be continued with compression. All went well for twenty-four hours. The styptic became displaced and bleeding recurred. Although the hemorrhage was small in quantity, death ensued in a very short time.

Yours truly,

H. F. Willis, M. D.

Preston, Md.

## Notes and Comments.

### The Teeth and Oral Cavity of Pregnant Women.

In an article on the teeth and oral cavity of pregnant women, in the *Journal of the American Medical Association*, Feb. 21, 1890, Dr. John S. Marshall says: From time almost immemorial, pregnancy has been recognized as having a deleterious effect upon the teeth; and this opinion has become so general that it has been crystallized into the familiar adage—"For every child a tooth." All writers upon obstetrics and the care of pregnant women recognize the fact that during the periods of gestation and lactation women are more liable to suffer from diseases of the teeth and neuralgia of the facial region than at other times; but the causes, prevention or mitigation of these diseases has received but little attention; in fact, it seems to be considered by most writers that these troubles are among the inevitable consequences of gestation and that little can be done to relieve them.

With this view I do not fully agree, for I believe much can be done to prevent or relieve the suffering incident to caries and the loss of the teeth, and the neuralgic condition of the face and mouth so common at this period. But in order to appreciate the causes and the treatment of these disorders, we must have in mind the changed conditions of the organism. The pregnant state is characterized by many and varied changes in the general system and in special organs, the most marked of which are those of the uterus, the genitals and mammary glands, but which it is not necessary for us to take time to describe, as they are generally well understood. The changes which bear the closest relationship to our subject are those of nutrition affecting the condition of the blood, the bones, the teeth and the excretions and secretions.

Pregnancy usually exercises a favorable influence upon nutrition; after the third or fourth month the appetite improves, adipose tissue is laid on and the body weight is progressively increased, so that at the completion of gestation it is about one-thirteenth greater than before. Many times, however, the reverse of this is met with; nutrition is so disturbed as to cause considerable emaciation and general debility.

An increase in the salivary secretions is often a noticeable symptom. Ptyalism, when present, manifests itself early and usually disappears spontaneously between the third and fourth months. It occasionally persists, however, in an aggravated form during the entire period of gestation, and even for several weeks after, and the amount secreted may be so great as to endanger the life of the patient. The qualitative changes in the saliva during pregnancy are sometimes quite marked. The water is increased, while the organic and inorganic elements are diminished. Schramm reported one case in which the ptyalin was entirely absent. In those cases in which excessive ptyalism is manifested the buccal mucous membrane is more or less inflamed, the parotid, submaxillary and sublingual glands are swollen and tender, and quite painful when their functions are especially excited. Fetor is not present, and the absence of this symptom distinguishes it from mercurial ptyalism. The cause of this disorder is in all probability a reflex neurosis, and it frequently reappears in successive pregnancies. Gingivitis is another common accompaniment of pregnancy, and is often present when there is no indication of salivation. Pinard is of the opinion that it is more common among multiparæ than primiparæ. This opinion is based upon seventy-five cases, of whom

forty-three were of multiparæ and thirty-two of primiparæ. In the former the disorder was present thirty-one times, in the latter fourteen times. Gingivitis is characterized by redness and tumefaction of the gums, and a tendency to bleed on slight pressure or friction, as in mastication or the use of the tooth-brush; while the secretions of the mucous gland are often decidedly acid in reaction, as may be easily proved by litmus paper. Treatment should consist of saline cathartics and astringent and antacid mouth-washes, and thorough cleanliness of the mouth and teeth.

Phagedenic pericementitis is occasionally present during pregnancy. This disorder is characterized by tumefaction of the gums, which have a purplish tint along the margins, the festoons are swollen and detached from the teeth, and bleed on the least provocation; many of the teeth are loose in their alveoli, from which pus constantly exudes, and in a majority of the cases examination of the roots of these teeth will show them to be more or less covered with calculus, the character of which is still in dispute, some claiming it is salivary, others serumal. After a little time the gums begin to recede from the necks of the teeth, and it is not by any means rare for this disease to progress so rapidly that one or more teeth are lost by the disorder before the completion of gestation. The disease usually persists after delivery, but not with such rapid progress as before.

Odontalgia is generally the result of dental caries which penetrates to the pulp and sets up an acute or chronic pulpitis, or may be caused (as recently stated by Dr. W. W. Allport) by hyperemia of the pulp, due to the augmented volume of blood, increased arterial pressure and capillary hyperemia of the upper half of the body. In proof of this statement by Dr. Allport, I would call attention to the fact that a brisk cathartic will often relieve or entirely control an attack of odontalgia, or a congestive headache.

Many women are in the habit of discarding from their aliment during pregnancy all those foods which contain an abundance of calcium salts, and restrict themselves, as nearly as possible, to a fruit diet, believing that by such practice the bones of the child will be imperfectly calcified, and thus parturition will be robbed of much of its suffering. There is no scientific evidence that such a result is obtained; while on the other hand, as in those cases affected with hyperemesis, though the child when born may be small and much emaciated, it has the appearance of being properly formed and its bones as dense as in the majority of normal pregnancies, and the fact seems to be pretty well established that the osseous framework of the fetus is formed in such cases at the expense of the maternal organism.

The principal exciting cause of caries during pregnancy, as in all other cases, is the ever-present lactic acid fermentation, but its action is greatly augmented by the changed conditions of the salivary and buccal secretions. The acids found in the secretions of the mouth as a result of the disorders incident to the pregnant state, are acetic, hydrochloric, uric and oxalic. Consequently in those cases where the dentine has been rendered abnormally soft—deficient in calcium salts—there is likely to be a very rapid breaking down of tooth structure during pregnancy and lactation.

Long tedious operations, like the restoration of form in decayed teeth with gold, are inadmissible during gestation. All operations upon the teeth at such times should be as free from pain and fatigue as is possible, from the fact that in certain cases miscarriage might be the result. Caries of the teeth can be arrested by the use of temporary fillings like Hill's Stopping, or oxy-phosphate cement, until such time as the patient is in condition to bear the nervous strain incident to large gold operations. Among the most valuable of preventive measures are a thorough and frequent use of the tooth-brush and floss silk at least three times per diem, supplemented by tooth powders and antacid mouth washes.

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## Fatal Hemorrhage into a Large Goitre.

Dr. Wm. Osler reports, in the *Johns Hopkins Bulletin*, Jan., 1890, the case of a woman who died of hemorrhage into a goitre. The woman was 44 years old, an inmate of the insane department, Philadelphia Hospital, and the subject of goitre for an indefinite and unknown number of years. She was up and about helping at her ordinary work, when she became faint, breathless and blanched, and died within a few hours. The body was well nourished, the skin of marble whiteness. An immense goitre occupied the entire space between the chin and sternum. In the lateral regions of the neck the swell-

ing extended towards the clavicles and below the skin of the upper half of the sternum. On section, a space was opened between the bronchocele and the sternum, containing large clots, which, on dissection, were found to have come from one of the lower cysts of the goitre, which had ruptured. The blood extended into the cellular tissue of the neck and beneath the sternum into the anterior mediastinum, covering the aorta and upper part of the pericardium. The hemorrhage passed behind the pharynx and down the course of the œsophagus for two or three inches. On removal, the windpipe and gullet were found almost completely embedded in the goitre, and the former seemed at its lower part somewhat compressed. There was œdema of the left lateral wall of the pharynx and the left ary-epiglottidean fold. The bronchocele weighed about three pounds, and was of the parenchymatous variety, with much calcareous and fibroid change; here and there were cysts. The thoracic and abdominal viscera presented no special change.

The case illustrates a very unusual accident in the history of goitre. It is well known that hemorrhage frequently occurs into the cysts; but Dr. Osler has not met with an instance in literature where death resulted from it. Whether the woman died directly from the loss of blood or from the mechanical effects of pressure is not easy to determine; probably the latter played the most important part, though the amount of clots beneath the skin in the lateral cervical and sternal regions was considerable, and the extreme pallor suggested death from hemorrhage.

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## Ligation of Varicose Ovarian Veins.

In the *Johns Hopkins Hospital Bulletin*, Jan., 1890, Dr. Howard A. Kelly reports that on October 17 he operated upon a woman in the Gynecological Department of the Johns Hopkins Hospital. She had long been under his care for the treatment of a retroflexion of the uterus, irremediable by the usual methods of treatment per vaginam. He therefore made an abdominal incision, and raised the uterus out of the hollow of the sacrum for the purpose of performing hysterorrhaphy, by attaching it by the ovarian ligaments to the anterior abdominal wall. Upon bringing the right ovary and tube out of the incision, the ovarian veins were found to be enormously dilated, being a half inch in diameter. They appeared as great blue tortuous distended vessels, extending from the upper angle of the uterus, between uterine extremity of the tube and the origin of the round ligament, outwards under the hilum of the ovary to the infundibulo-pelvic ligament.

While assured that the elevation of the uterus by hysterorrhaphy would be a most important factor in improving the impeded circulation, there still remained an element of doubt as to whether veins so greatly distended could fully recover their normal caliber; Dr. Kelly therefore tied both veins with a single ligature on the right side, and on the left side tied them in two places.

The procedure was an extremely simple one, apparently free from danger. When the tube and ovary are brought out of the incision held well elevated, between thumb and forefinger, an area irregularly triangular is exposed in front of the broad ligament, bounded on its lower inner side by the curved line of the round ligament sweeping downwards and outwards with its concavity downwards and inwards. The upper border of the triangle is formed by the base of the meso-salpinx including the hilum of the ovary. The margin of the abdominal incision connecting the lowest visible point of the round ligament with the outer limit of the meso-salpinx and hilum of the ovary forms the base of this triangle. Within this area the ovarian veins and arteries lie. To tie these veins without danger of puncturing them, one must take a lower grasp of the broad ligament, catching the veins between the second finger and thumb, using the index fingers to press upon, and empty them; the translucent spaces above and below the vessels are thus easily distinguished from the white opaque coats of the empty veins. A ligature can then be passed through one of these clear spaces, piercing both layers of the broad ligament below the veins on the inner or the outer side of the hilum of the ovary. The ligature is again brought through the broad ligament above and tied. In this way the lumen is effectually occluded. The ligatures are cut short and dropped, and the hysterorrhaphy proceeded with. On the outer side of the hilum it is simply necessary to pass the ligature *beneath* the veins, and to tie over the upper margin of the infundibulo-pelvic ligament.

Dr. Kelly's patient has not had an unfavorable symptom since the operation. The uterus lies in a posture of easy natural ante-

flexion. It would be impossible to decide by the examination alone that the uterus had ever been sutured to the abdominal wall.

Whence the pelvic pain arises in these cases it is impossible to say; it is equally impossible to say that these great distended vessels may not play a very important part in the production of the pelvic and lumbar malaise.

## Water Supply of Toronto.

In providing for the water supply and the disposal of the sewage of the city of Toronto, engineers have to deal with the problem which is presented by the necessity of drawing the water from and returning the sewage to the same body—Lake Ontario. The water intake is now through a crib fixed at about 2,000 feet from the outer shore of the island that lies in front of the harbor. The engineers who were invited to study the subject and report upon it have reached the conclusion that "for many years to come no objection can arise and no pollution will be observed, if the sewage outfall is placed as proposed, six and one-half miles from the present water intake."

## The Transmission of Typhoid Fever by the Air.

It is generally admitted that the transmission of typhoid fever takes place principally through the water supply. Experience, indeed, has proved this to be the case; but—as the *Medical Press* of Feb. 5, 1890, says—it must not be overlooked that other ways may exist, and speaks of introduction of typhoid bacilli by the breathing of air contaminated with the spores. Some observations by Dr. Chour, of an epidemic of typhoid fever among soldiers, commented upon in the *Revue Scientifique*, serve to show the importance of not concentrating one's attention too exclusively upon any one vehicle in the endeavor to prevent the spread of the disease. Two regiments stationed at Jitomir, and supplied with drinking water from the same source, suffered in a very different degree from the disease. The soldiers belonging to the regiment which suffered most severely were quartered in various barracks, and it was remarked that at one particular locality the men were attacked in a far larger proportion than their fellows, who were located elsewhere. In December, 1886, the buildings were evacuated and thoroughly cleansed and disinfected, whereupon the mortality fell to 1.7 per thousand in 1887, and to 0 in 1888. In the other barracks, which had not been thus dealt with, the mortality rose to 22 per 1,000 in 1887, and to 33 per 1,000 in 1888. It occurred to Dr. Chour to institute an examination of the dust from the infected barracks, and he found in it an average of fourteen million microbes per gramme, among which the typhoid bacillus was easily detected. The evacuation of the rooms and their thorough disinfection promptly put an end to the epidemic.

## Asylum Physicians not Permitted to Testify.

The *Medical Record*, January 4, 1890, states that Reuben A. Holder, who had been a patient at the New York City Asylum for the Insane for some eight months, had been brought before Justice Patterson at Supreme Court Chambers upon a writ of *habeas corpus*. At an *inquirendo de lunatico*, ordered before Justice Andrews and a jury, the medical superintendent, Dr. Bond, was put upon the stand. The attorney for Holder objected to the doctor's testimony upon the ground that the relation of physician and patient had existed, and was therefore inadmissible under section 834, Code of Civil Procedure. "A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." The Court reserved decision until after recess; and then the objection was sustained. In rendering this opinion Justice Andrews said that during the recess he had conferred with several of his associates, two of whom were sitting at General Term. The same objection was made to the testimony of the examiners who gave the certificates upon which the patient was admitted to the Asylum. This objection was overruled. One of the Asylum attendants was permitted to testify, and this was all the testimony given regarding the patient's mental condition since his admission to the Asylum eight months before.

Under such circumstances it is not to be wondered at that he was declared sane. It did seem something of a farce to see an attendant testify regarding a person's sanity

while the Asylum physicians sat in the court-room, their lips being sealed. This may be just and good law, but for a fair and just scientific inquiry most absurd. Under such rulings all patients might be discharged, regardless of their mental or physical condition, unless the city went to the expense of employing outside physicians to examine the patients. One cannot but wonder if this patient were to bring suit against the city and the Asylum physicians for damages for detaining a sane person in the Asylum the same ruling would hold, and if so, what protection an Asylum superintendent has against such suits.

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## Investigation of the Influence of Tobacco on Tuberculosis.

The State Board of Health of Pennsylvania is desirous of obtaining authentic information as regards the effect to tobacco smoking, either in promoting or retarding the development of pulmonary tuberculosis or consumption. It has been stated that inveterate smokers are, to a great extent, exempt from the disease. If this is true the fact ought to be made widely known. If it has no foundation it ought to be authoritatively contradicted. The Board has, therefore, through its Secretary, Dr. Benjamin Lee, Philadelphia, addressed a communication to a number of physicians, asking them to report at as early a date as convenient, the results of their own observation and experience in regard to this subject.

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## Expulsion of the Ovum Entire, Late in Pregnancy.

In the *Weekly Medical Review*, Feb. 22, 1890, Dr. C. W. Fallis, of East Lynne, Ill., says that we have been led to believe that expulsion of the human ovum with its membranes intact, after the third month of pregnancy, is a very rare occurrence, although we have cases recorded as having taken place as late as the sixth month. The following case, however, teaches that it is not impossible for a delivery of this kind to take place much later in gestation. The case is one that came under Dr. Fallis's care quite recently, and is one of unusual interest.

The mother, a stout, healthy-looking primipara, was taken in labor late in the evening of Feb. 2, and Dr. Fallis was not called till the next day, when he was summoned in haste and, on entering the house, was told that the woman was through and "everything is in the bed." Yet no attempt had been made to look after the child, which had not made a whimper, and for good reason, as we shall see. As soon as Dr. Fallis could get ready he made an examination and was not a little surprised to find a loose mass between the mother's thighs, which proved to be the ovum entire, placenta and membranes with their fetal contents altogether in one ovoid sac; the entire contents of the gravid uterus having been expelled in one body. He then removed the fetal mass to a convenient place, and ruptured the membranes, exposing the child, which was a small emaciated female. It was about fourteen inches in length, and weighed about three pounds.

The mother's statement was, that she was between seven and eight months advanced in pregnancy, but judging from the general development of the child, it is probable that she was mistaken.

Although the child was very small, the ossification of the cranial bones, the appearance of the finger-nails, as well as the absence of the lanugo, indicated that it was a fetus of at least eight months, and possibly one not far from term.

There was no known cause for the pregnancy being terminated before the allotted time; both parents were healthy, and the mother had not been sick during the time that she was carrying her child.

The child had the appearance of recent death; it was alive, Dr. Fallis thinks, during expulsion, from the fact that the cord was looped over its right shoulder, and the right arm was in a condition of intense venous congestion. This congestion must have been produced during expulsion, for at no other time would the cord be made tense enough to stop the venous circulation.

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## Treatment of Fever of Phthisis.

The following formula is recommended by Liebermeister, in the *Bulletin Médical*, Feb. 16, 1890, for the treatment of the hectic fever attending phthisis:

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| ℞ | Quininæ sulphatis . . . . . | gr. xxxj |
| | Digitalis . . . . . | gr. vilj |
| | Extract. gentianæ . . . . . | q. s. |

M. et. fiant pil. no. xl.

Sig. Six to ten pills daily.

## NEWS.

—Professor von Nussbaum, of Munich, has recovered from an attack of influenza, which recently endangered his life.

—Dr. F. L. Barnum, of Carlisle, Pa., has been arrested by a postal inspector for sending defamatory matter through the mails.

—Medical Director Robert T. Maccam died, March 21, in Baltimore. He was born in Pennsylvania, and was appointed Assistant Surgeon from New Jersey in 1844.

—Catoni, the Italian giant, who has just died, sold his skeleton last week to an anatomy museum in Rome for $2,000. The money has been paid over to his heirs.

—It is announced that the Senatus of the University of Edinburgh will, in April, confer the degree of LL. D. upon Sir John Kirk, M. D., and Sir Dyce Duckworth, M. D.

—Dr. Wm. H. Triplett, a prominent physician and surgeon, died March 27, in Woodstock, Virginia, aged 53 years. Dr. Triplett was a graduate of the Jefferson Medical College of the class of 1859.

—Colonel A. H. Rogers, of New York, who seems inclined to free all the inmates of the Ward's Island Insane Asylum, procured from the Supreme Court, on March 24, thirty writs of habeas corpus for that number of alleged lunatics.

—Dr. J. S. Dorsett, Superintendent of the State Lunatic Asylum at Austin, Texas, was assaulted and dangerously injured, on March 24, by a lunatic. He was making his usual rounds in the wards when the patient, seizing an iron rod, crept behind him and struck him a blow on the head. Three other blows were struck before the attendants could restrain the maniac.

—There has been an epidemic of diphtheria in Burin, Newfoundland. There is no doctor in the district, and the sufferers were attended by Rev. Father Walsh. Of 40 cases that the priest attended only one proved fatal. The priest took the disease himself, and died after a few days' illness.

—The Meharry Medical College for the education of negroes, held its commencement exercises at Masonic Theatre, Nashville, together with the dental and pharmacal departments of Central Tennessee College for colored people, the night of February 27, 1890. Diplomas in medicine were given to fifteen graduates, in dentistry to two, and in pharmacy to one.

—Professor E. Henoch, of Berlin, celebrates his seventieth birthday on July 16. A committee chiefly composed of Berlin practitioners, has been formed for the purpose of having a bronze bust of the venerable teacher executed, which it is proposed to place in the Children's Clinic of the Charité Hospital. Professor Henoch has been head of that department for the last 32 years.

—The Brussels Academy of Medicine has expressed itself in favor of the establishment of a special asylum for criminal lunatics in Belgium. In this asylum they advise that all insane persons recognized to be dangerous to their fellow-men should be confined, whether they have actually committed a crime or not. Lunatics whose mental derangement manifests itself in outrages on public morality, attempts at rape, etc., are classed as "dangerous."

—The practice of cremation is so largely on the increase that it has been decided to build a new furnace at the cemetery of Père-la-Chaise, Paris. The furnace at present in use is kept burning night and day, a system which permits of the complete destruction of the corpse in less than an hour. It is hoped that with the new furnace the same result may be obtained in three-quarters of of an hour at the most.

—Some weeks ago a collective investigation of the influenza epidemic was organized in Germany at the suggestion of Professor Leyden, of Berlin. A table of fifteen questions relating to the etiology, symptomatology, course, and sequelæ of the disease was issued to all medical practitioners in the Empire. Answers are said to be pouring in in numbers beyond all expectations, and the committee is now considering how best to deal with the enormous material which has been collected.

—The trustees and faculty of the Medical College of South Carolina will hold an election, on or about April 15, for the purpose of filling the vacancy existing in the chair of pathology and practice of medicine. The three years' course of instruction as necessary for graduation has been adopted, to begin with the matriculates of 1890.

## DIED.

MUHLENBERG.—Died, at Reading, Pa., February 21, 1890, after a severe illness of two weeks, which she bore with heroic firmness and Christian resignation, Augusta Muhlenberg, wife of Dr. W. F. Muhlenberg, aged 29 years. Three small children survive her loss.